Art Unit: 1711

IN THE CLAIMS:

Please amend claims 1, 6, 8-11, 15, 19, 23, and 27 to read as follows:

 (Currently Three Times Amended) A chelating composition comprising a modified iminodisuccinic acid, or a salt thereof, <u>having the ability to donate at least five</u> nonbonded pairs of electrons without hindrance or bond strain, and having one or more of the following formulas:

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(a)

(b)

(c)

(d)

(e)

(f)

where X is H, alkali, alkaline earth, ammonium-substituted radical, ammonium or transition metal;

where n is 1 to 10; and

where R is a Lewis base capable of donating a nonbonded pair of electrons, and wherein said composition is synthesized in a single vessel, at ambient pressure, without the addition of heat, whereunder a primary or secondary amide reaction occurs first followed by a radical reaction.

6. (Currently Twice Amended) A method for making a modified iminodisuccinic acid having the ability to donate at least five nonbonded pairs of electrons without hindrance or bond strain, said method comprising:

mixing together an acid anhydride or lactone with a first polyfunctional amine monoethanolamine and allowing said mixture to react to form an amide; adding to said amide a second polyfunctional amine, maleic anhydride or acid salt, and water and allowing said mixture to react in said water to form said modified iminodisuccinic acid, and

wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.

7. (Original) The method of claim 6 wherein said modified iminodisuccinic acid has one of the following formulas:

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U.S. Serial No. 09/611,521 (Attorney Dkt: LIDO:003)
Art Unit: 1711

(a)

R C_n X-O-OC-C--N--C-CO-O-X / RC_nNOC-C C-CONC_nR

(b)

R C_n X-O-OC-C--N--C-CO-O-X / \ X-O-OC-C C-CONC_nR

(c)

R C_n X-O-OC-C--N--C-CO-O-X / X-O-OC-C C-CO-O-X

(d)

X-O-OC-C--N--C-CO-O-X
/
RC_nNOC-C C-CONC_nR

(e)

X-O-OC-C--N--C-CO-O-X / X-O-OC-C C-CONC_nR

(f)

Art Unit: 1711

where X may be H, alkali, alkaline earth, ammonium-substituted radical, ammonium or transition metal;

where n may be 1 to 10; and

where R may be a Lewis base capable of donating a nonbonded pair of electrons.

- 8. (Currently Amended) The method of claim 6 A method for making a modified iminodisuccinic acid comprised of 2, 2-amino N.N-diethanolsuccinic amide having the ability to donate at least five nonbonded pairs of electrons without hindrance or bond strain, said method comprising:
- mixing together wherein said anhydride is maleic anhydride with and said first polyfunctional amine is ethanol amine;
- and allowing said mixture to react to form an amide; adding to said amide and said second polyfunctional amine is NH3, and water and allowing said mixture to react in said water to form and said modified iminodisuccinic acid-is comprised of 2,2-amino N,N-diethanolsuccinic amide, and wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.
- (Currently Amended) The method of claim 6 where, A method for making a 9. modified iminodisuccinic acid having the ability to donate at least five nonbonded pairs of electrons without hindrance or bond strain, said method comprising:
- mixing together an acid anhydride or lactone with monoethanolamine
- and allowing said mixture to react to form an amide;

Art Unit: 1711

U.S. Serial No. 09/611,521 (Attorney Dkt: LIDO:003)

instead-of adding to the amide a second polyfunctional amine adding to said amide an acid anhydride and Me(OH) alkali metal hydroxide and R-NH2 where R is hydroxyl, is added to the amide and water and allowed to react to form allowing said mixture to react in said water to form an amino acid Me alkali metal salt of the amide, which in said water will become a modified iminodisuccinic acid, and

wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.

- 10. (Currently Amended) The method of claim 6 wherein said anhydride or lactone is selected from the group consisting of: maleic anhydride; and said first and second polyfunctional amines are is selected from the group consisting of difunctional amines selected from the group consisting of organic diamines, hydroxylamines, polyamines, poly hydroxylamines, acid amines, and mixtures thereof.
- 11. (Currently Three Times Amended) The synthesis of compounds comprising at least one poly functional substitution on iminodisuccinic acid having the following formula and the ability to donate at least five nonbonded pairs of electrons without hindrance or bond strain

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U.S. Serial No. 09/611,521 (Attorney Dkt: LIDO:003)

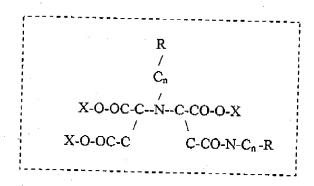
Art Unit: 1711

where X is H, alkali, alkaline earth, ammonium-substituted radical, ammonium or transition metal; n is 1 to 10, and R is a Lewis base capable of donating a nonbonded pair of electrons, wherein said synthesis comprises the steps of:

- adding an acid anhydride or lactone to a first-polyfunctional (a) aminemonoethanolamine, and allowing same to react to form a N-polyfunctional acid common name amide; and
- adding water, Me(OH) alkali metal hydroxide, and a second (b) polyfunctional amine to said N- polyfunctional acid common name amide and allowing same to react to form an imino di N- polyfunctional acid common name amide, and

wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.

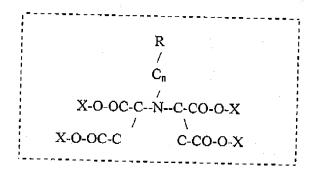
15. (Currently Three Times Amended) The synthesis of compounds comprising at least one poly functional substitution on iminodisuccinic acid having the following formula and the ability to donate at least five nonbonded pairs of electrons without hindrance or bond strain:



Art Unit: 1711

where X is H, alkali, alkaline earth, ammonium-substituted radical, ammonium or transition metal salts, n is.1 to 10, and R is a Lewis base capable of donating a nonbonded pair of electrons, and Me is selected from the alkali metals, wherein said synthesis comprises the steps of:

- adding an acid anhydride or lactone to a first polyfunctional amine (a) monoethanolamine, and allowing same to react to form a N- polyfunctional acid common name amide; and
- adding to said N- polyfunctional acid common name amide, water, a (b) second polyfunctional amine, an acid anhydride or lactone, a Mo (OH) alkali metal hydroxide, and allowing same to react to form said compounds, and wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.
- 19. (Currently Three Times Amended) The synthesis of compounds comprising at least one poly functional substitution on iminodisuccinic acid having the following formula and the ability to donate at least five nonbonded pairs of electrons without bindrance or bond strain:



Art Unit: 1711

where X is H, alkali, alkaline earth, ammonium-substituted radical, ammonium or transition metal salts, where n is 1 to 10; where R is a Lewis base capable of donating a nonbonded pair of electrons, wherein said synthesis comprises the steps of: adding maleic anhydride or malic acid to Me(OH) alkali metal hydroxide + polyfunctional amine monoethanolamine + water, and allowing same to react to form the N, N-disuccinicamino(:functional group), and wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.

23. (Currently Twice Amended) The synthesis of compounds comprising at least one poly functional substitution on iminodisuccinic acid having the following formula and the ability to donate at least five nonbonded pairs of electrons without hindrance or bond strain:

where X is H, alkali, alkaline earth, ammonium-substituted radical, ammonium or transition metal salts; where n is 1 to 10, where R is a Lewis base capable of donating a nonbonded pair of electrons; wherein said synthesis comprises the steps of:

Art Unit: 1711

- adding acid anhydride or lactone to a first polyfunctional amine (a) monoethanolamine and allowing same to react to form a N- polyfunctional acid common name amide;
- adding to said N- polyfunctional acid common name amide, water + (b) ammonia + Me(OH) alkali metal hydroxide, and allowing same to react to form an N,N- amino polyfunctional acid common name amide, and wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.
- (Currently Twice Amended) The synthesis of compounds comprising at least one 27. poly functional substitution on iminodisuccinic acid having the following formula and the ability to donate at least five nonbonded pairs of electrons without hindrance or bond strain:

where X may be H, alkali, alkaline earth, ammonium-substituted radical, ammonium or transition metal; where n may be 1 to 10; where R may be a lewis base capable of donating a nonbonded pair of electrons; wherein said synthesis comprises the steps of:

Art Unit: 1711

- adding an acid anhydride or lactone to a first-polyfunctional-amine (a) monoethanolamine and allowing same to react to form an N- polyfunctional acid common name amide;
- adding to said N- polyfunctional acid common name amide, water, (b) ammonia + maleic anhydride or maleic acid (salt) and allowing same to react to form said compounds, and

wherein said synthesis occurs in a single vessel, at ambient pressure, and without the addition of heat.